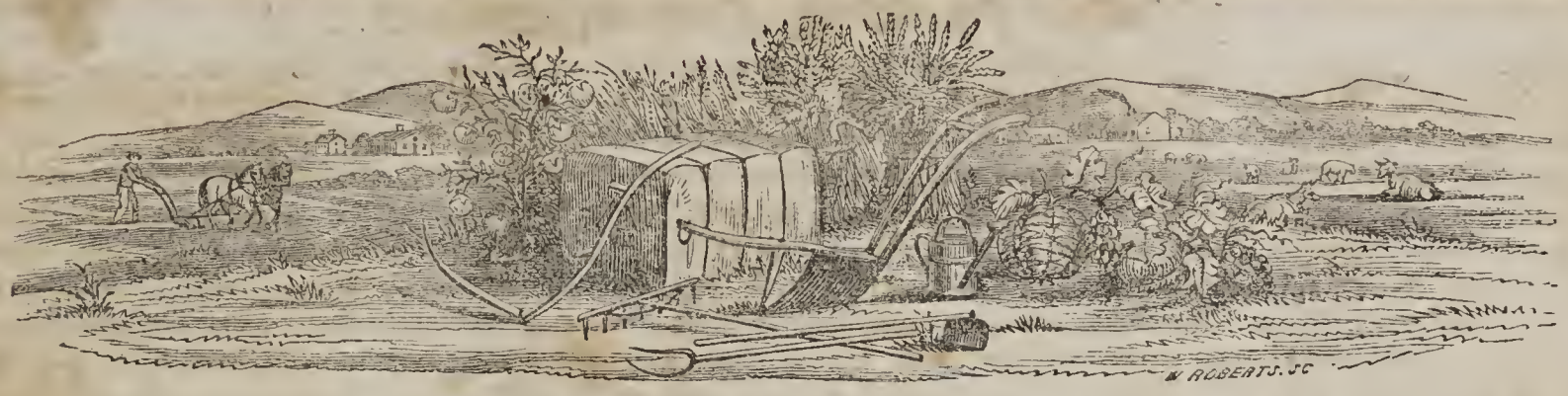

FARMER AND PLANTER.

DEVOTED TO AGRICULTURE, HORTICULTURE, MECHANICS, DOMESTIC AND RURAL ECONOMY.

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Address.

BY WILLIAM S. KING, MANTON, R. I.

(Continued from page 116.)

Scientific Agriculture is the cultivation of the earth by rule, and not by guess-work. Indeed, when and where guessing ends and system begins, then and there is the birth, and the birth-place of science.

How many farms, gentlemen, within the reach of your observation, are, by this definition, scientifically cultivated? On how many is the depth of the plowing gauged by the depth of the soil, the character of the subsoil, and a wise intention to render the fertile loam deeper year after year, inch by inch? How many farmers of your acquaintance, who enter on a farm with a soil three inches deep, undertake, as they well and easily might, to render it in ten years, twelve inches deep? I would tell you here, that the experiments of thousands of frrmers have proved that by thrusting the point of your plow one inch, or three-quarters of an inch deeper at each plowing and bringing to the surface so much of the inert subsoil, to be operated on by the atmosphere and to be benefitted by the manure year after year, you will to thisextent increase your active fertile soil, and gradually create another farm, as it were, under your old one. But this would be scientific farming; and consequently, in the opinion of too many farmers, mere nonsense; notwithstanding that, facts plenty as blackberries, confront them with evidence.

On how many farms in this State, or in any State, is the manure applied with sufficient knowledge of the component parts, and consequently of the wants, of the soil! On how many is the manure itself prepared and preserved, so that it retains all its valuable constituents?—Why, gentlemen, if one were to say that plants, to thrive, require food in certain proportions; and that if one of the necessary substances is not present in the soil, and is not supplied in the manure, the plant cannot thrive; and that in proportion as you have or apply the precise quantity of each ingredient neeessary, so nearly do you come to getting the maximum crop,—you would set it down at once, in scorn, as scientific farming!—And yet how else do you account for the fact, that one man grows a hundred bushels of corn to an acre and another but twenty? Why, clearly, because the land whereon grew the hundred bushels was naturally, or by scientific treatment, in a proper condition for corn bearing,—had in its womb all the neeessary kinds, and enough of each kind, of food, that the young and the growing plant required for its leaves, its stalk, its tassel and its ear. And how do you account for the fact, that you do not get an equal crop on the same land the next year? Why, because the first crop has eaten up a good share of the food in the ground-pantry; and the third season, (if any man is silly enough to try corn again on the same ground, without having supplied food by manure,) the third crop would find the shelves pretty well cleaned; and the progeny of that year would be pigmies.

On how many farms in New Hampshire is an accurate calculation made of the cost of growing different crops, so as to decide which is the most profitable to raise? On how many farms is an account kept of outlay and income from each field and each animal, that the prudent husbandman may know where is the mouse-hole in his meal-bin? This is not done because it would be scientific farming. To be sure, a merchant who pretended to carry on an extensive business without keeping books, and without taking now and then "an account of stock;" or who continued to deal in certain styles of goods, without knowing whether he was making or losing money by the operation, would be held insane. But surely that is no reason why a man, who prides himself on being a plain practical farmer, should farm by arithmetic.

Do farmers hereabout, or farmers generally anywhere, attempt gradually to improve their seed by early and judicious selection; and by always planting the best, instead of reserving the worst for that purpose; or do they sell all that is fit to be sold, and keep the poorest for home use and for seed? This gradual improvement of seed, such as Mr. Brown, on an island in Lake Winnepesaukee has made in corn—known as Brown corn—and as many others have made in many

plants, and fruits, and flowers, by the simple selection of seed, with judicious cultivation,—this smacks rather too much of science, for a practical farmer.

Scientific Agriculture recognises the fact. that manures are not economically applied, to exert their best influences, upon soils where water too much abounds; and recommends drainage. "And so," say you, "does every practical farmer, who knows beans." Well, perhaps every practical farmer does not 'know beans,' or he would recognize them in a good share of the burned *coffee*, that he buys!—At any rate, how different the operations of the systematic and of the guess-work drainer. The first discovers the secret springs, that supply the superfluity of water; and so locates his drains, and so cut off the vein before it opens on the surface. While nine-tenths of your practical men dig ditches in the lowest part of the meadow, where the water stands:—forgetful that an ounce of prevention is worth at pound of cure. This subject of drainage opens too vast a field for me to venture upon at this time.

This same rule of prevention causes your scientific farmer to do *all things in season*. He stirs up the earth between the drills of his crops, with the hoe or cultivator, to kill the weeds, before they attain to great size, and strength and appetite. There is no such glutton as your weed. Like a sharper among honest folks, it defrauds the legitimate owner of what rightfully belongs to him. With coolest impudence, it steals from the young and tender plant three-fourths of its food, and grows in consequence three inches to its one; Mr. Weed overtops it; he bullies it, as it were, after reducing its strength by starvation. By and by he claims the ground as his own, and flourishes in undisturbed possession. He becomes seedy at length; establishes a large family, in good quarters to rob succeeding crops of potatoes and carrots; and it is only uprooted and punished when he has about run the length of his evil course.

Agriculture is understood to express, not merely the cultivation of the land, but also all the operations incidental to it, or consequential upon it. Accordingly, we find science in the stock-yard.—The same enlightened system, that prevails in the field, is introduced here.—Acting upon the well-established rule, that "like begets like," she selects fit moulds, and builds up breeds of cattle for the shambles, square and ponderous, like the lordly Durhams; and again for the yoke she prepares the beautiful and agile Devon; for the milk pail she reserves families of each of these breeds, in which big udders and profuse secretions of milk are hereditary. For the churn she shows the gentle Jersey cow; seven quarts of whose milk will yield a pound of butter.

Among swine, this same wise system, a synonyme for science—has proved the Suffolk, the Middlesex, and other breeds, that run to fat, as naturally as a turtle-fed alderman;—they eat, they grunt, they sleep their lives away, until they have attained to a very Lambertism of obesity: and then, with a gurgling in the throat they change into pork and are laid down in the barrel.

These noble horses, too, whose ardent neigh comes even now to our ears, were fashioned by science! Ask the breeder if the fine points of his prancing steed are come by chance? and he will indignantly tell you, No. He was bred systematically, or, as we chose to call it, "for short," *scientifically*. He has regard to the best *points* of sire and dam, and with careful consideration has produced the animal we admire.

Science is at home in the manger and in the manure cellar. She tells us what feed goes to the making of bone and muscle for the growing calf; and what makes fat on the stalled ox. She tells us what gives speed,—because it supplies the wear and tear of tendon and bone,—to the racer; and what will lap the lazy pig in Elysium until he wakes to the sight of the gleaming knife, struggles, groans and dies.

So with the manure heap, she is a safe and learned counsellor. She tells you that, when exposed, its strength is washed away by the rains; and darkening the current of yon bubbling brook, is carried away from you forever. She bawls in your deaf ears, "house it; prepare a cellar beneath your barn, or at least, a roof to protect it from the thievish element." She points out to your wilfully blind eyes the escaping gases, disengaged by the sun, and flying off upon the wind's wings.—Doing nothing by halves, she holds out to our closed and retracted hand, absorbents and divisors—such as charcoal dust, and peat, and muck. She tells you of the value of guano and other fertilizers, and instructs you in the mode of applying them.

In the garden, and the orchard, and the green-house, science has been made welcome, and we see her doings there. The mean Crab has become a Baldwin; The bitter Sloe, or Wild-Bullace, has been changed into the precious plum; the Beam-tree has no longer its small and acerb berries, but bears bouncing Bartletts. The wild Cole-wort, that grew, small and thriftless, on the sea-shore cliffs, has been improved into the big-headed Bergen cabbage. Pitiful weeds or insignificant field flowers are made blooming ornaments of the garden and the green-house. Here, in horticulture, may be seen some of the rarest triumphs of agricultural science.

In view of what has been said of scientific Agriculture, many of my hearers will say,—"Why, if this is your scientific farming, we have been scientific farmers all our lives without knowing it. We plow, we manure, we drain, we breed cattle and swine and horses, we house our manures, we prune and scrape our trees, and everything—just as you say scientific agriculture commands,—upon a system that practice has proved to be correct."

Gentlemen, fellow farmers, I am fully aware of the fact, that many of the sturdiest opposers of science are, *practically*, scientific farmers, denouncing science as a name, without examination or inquiry.

(*Concluded in our next number.*)

For the Farmer and Planter.

Wine Making.

Messrs. Seaborn & Gilman:—Several of our friends have tasted some wine Mrs. Simpson made last summer and requested a copy of the receipt by which she made it. To avoid so much copying, I have concluded the better way is to have it published in the Farmer and Planter where all may see and preserve an easy plan of making wine.

Respectfully, R. F. Simpson.

Receipt.—Gather the grapes without breaking the clusters and separate the unripe and defective berries. Throw the clusters into tubs and manage in any convenient way, to crack the skin of every grape, either by hand or a wooden pestle taking care not to break the seed. The "murk" or pummice is then put into a vessel large enough to hold all you make at one time, and covered with one or more thickness of a blanket, to confine the heat and hasten fermentation.

As it works, the pummice will rise to the top, and in 5 or 6 days will begin to sink, when you are to draw off the liquor by a tap near the bottom of the vessel, as long as it runs clear. This set aside for the best wine; what you can express from the pummice afterwards, will make good vinegar.

The liquor drawn is called "must," and in the state it is in as drawn, add not

less than 3 pounds of sugar to the gallon. For nothing incorporates well with the must unless added before fermentation.

It is said in the receipt by which our wine was made, that if properly made, wine does not require brandy or any other spirit, and is much better without it; but my experience is, it will sour without brandy. I therefore add one measure of French brandy to every ten measures of must.

After the sugar and brandy have been added, it is put into a vessel which it will fill to the top or bung, in a moderately cool place, and filled to the open bung and allowed while fermenting to overflow. It will work briskly for a month or more, and when it sinks below the bung or mouth, the vessel must be filled up with a part of the same must, set away for this purpose, so as to continue to overflow.—Before the fermentation entirely subsides, it is best to stop it by racking off into other vessels, to preserve the fine aroma of the wine. This is done by repeated rackings or drawing off into other vessels, previously smoked with sulphur, by burning in them rags dipped in melted brimstone It will probably ferment after this first sulphering and racking; yet it may now be fined and clarified. This is done by stirring the white of eggs (the white of one egg to two gallons) into the wine—or isinglass may be used—and in a week or ten days afterwards racked off. At every racking a quantity of sediment will be found in the bottom of the vessel used. This must be removed and the rackings continued till the wine is perfectly clear.—Then in March, or April, bottle off, and when the bottles are tightly corked, dip the mouth of the bottle and cork into melted wax, made with equal portions of rosin and beeswax, and set away in a cellar or some other cool place. It is now fit for use.

A measured bushel of grapes will weigh about 38 pounds, and 11 or 12 pounds will make a gallon of wine.

Plain Facts in Agricultural Chemistry.

BY J. S. HOUGHTON, M. D.

Common stable manure, from which the urine of animals has escaped, is not a complete manure.

The above assertion was presented in a previous article, and explained at some length. The chief reason is simply this, that certain parts of the food consumed by animals always go off in solution in the urine, and hence the solid manure alone, no matter how much you may have of it, can never furnish the material to grow the same crops upon which the animals were fed, if the urine is lost.

In intimate relation to this great fact, in the economy of manures, is this other fact, a principle, that every soil must contain *all* the constituents of the plant to be grown, in sufficient abundance, (and even in excess,) or the most perfect and the largest crops cannot possibly be produced.

One of the chief ingredients of plants as, lime or plaster of Paris, or salt, or potash, alone, will not, in ordinary cases, be a sufficient addition to the compost heap; but if the plant requires, as most plants do, five or six leading ingredients, they must be *all* there or those which are employed will be, for the time, comparatively lost.

A very good illustration of this point has been used by Dana. He says that attempting to work the soil without *all* the ingredients of plants present in sufficient abundance is like a man attempting to build a vessel, thus: he may have all the plank, and ship knees, and spars, and sails, and rigging, and all other requisite materials, but *no nails*, and *spikes!* and he can't possibly build his ship successfully. Nails and spikes are small matters, compared with the rest of the vessel, but he can't get along without them.

So it is, in farming. You may as well try to build a ship without nails, as to grow the plants with the smallest ingredients in the fertilizing materials required by plants omitted. If you have one favorite manuring agent, say lime, it may be the very thing your plants *don't want*, while the little thing which they do want is neglected. Potatoes need plenty of fresh loam, and little rich manure; corn needs much rich manure. Yet how often do we see farmers planting their potatoes with first rate manure, and planting corn on a freshly turned sod, with scarcely any manure at all. The new sod, I grant, would make good manure if it was rotted, but it is doubtful whether its ingredients will become available to the corn the first season.

With the free use of stable manure it is probable that nearly all the constituents of plants may be present in the manure heap and the soil with the exception of ammonia. This may readily be supplied by guano, when thought necessary. The guano should, of course, be composted for a week or two before, mixing with a good black loam, charcoal dust, or some other good absorbent of ammonia, say plaster of Paris. Now, if a farmer neglects to ascertain whether, or not, *all* the ingredients of a crop are present in sufficient quantity, in the manure he intends to use, may he not, instead of missing the small matter, (like the nails of the ship,) miss the leading material, something analagous to the wants of the soils which are the most important of all? No man, it seems to me, can deny for a moment the necessity of looking carefully into the nature of plants, and the composition of manures, if he desires to practice farming with success.

I am by no means in favor of recommending to farmers to obtain analyses of their soils, because I do not think, as a general thing, they can make any profitable use of them; but they may learn what sort of manure they ought to use for particular crops, and how to use them. They may learn the necessity of saving their liquid manure, and the necessity and the art of supplying deficient materials in their compost heaps.

I will endeavor to do what I can towards this desirable end, by furnishing a few more plain facts in agricultural chemistry from time to time for circulation in the *Agricultor*.

To Kill Crows.—In the winter or towards spring, the crows are generally very plentiful. Take the entrails of hogs or sheep or a dead carcass of any kind, any place at a proper distance behind the barn, or other building. Then take a two inch auger and bore a hole through some convenient spot, the proper height, and remain inside after they frequent it. Then take a good fowling-piece, well loaded, and when the black gents assemble to dine, point the muzzle of your gun through the port-hole, take a dead level at the thickest part of the assembly, and let go, and the carnage will be desperate. This is no theory; it is practical experience. I think nothing of killing twenty at four shots with a small gun.

I have often done it, and had crows in the spring by the bushel. If you want them for scare-crows, take out the inside and throw in a handful of salt to preserve them, and you can have crows to hang over the fields in the spring in any quantity; and depend upon it, they are perfectly horrified at the sight, and have no idea of entering premises where their black brethren are so uncivily dealt with.—*Genesee Farmer.*

Vinegar from Beets.—Grate the beets, having first washed them, and express the juice in a cheese press, or in any other way, which a little ingenuity can suggest, and put the liquor into an empty barrel; cover the bung hole with gauze and set it in the sun, and in twelve or sixteen days it will be ready for use.

Botany for the Farmer.

For the Farmer and Planter.

Messrs. Editors:—It is still dry! dry! dry! and we have left the field, to clean up the quarters, with a clear conscience and a moderately clean face, we sit down to relieve the tedium of dry, hot weather, by giving a botanical description of the Spanish potatoe. Venetat placed it in the natural order convolvulaceæ, the bind-weed tribe. Genus, convolvulus, and species battatas, class and order pentandria monogynia. General character, calyx perianth, five cleft; corolla monoptalous, bell-shaped or funnel-shaped, plaited; border generally spreading, more or less five-lobed; stamens, filaments five, awl-shaped, shorter than the corolla, approximating at the base. Pistillum, germ superior, roundish; style, filiform; stigma simple or bipid pericarps; capsule surrounded by the calyx, roundish; one, two, three or four-celled; one, two, three four or many-valved; seeds, one, or two, in each cell. Essential character, calyx five-cleft, corolla, bell or funnel-shaped; stigmas, one, two; pericarps, a capsule or dry berry; seeds, one or two in each cell.

Convolvulus Battatas, or Sweet Potatoes. Leaves heart-shaped, hastate, five-nerved; stem hispid, creeping, bearing tubers. Root perennial; hispid, prostrate, creeping, sending out scattered, oblonge, cuminate tubers purple, or pale on the outside; leaves angular, on long petioles. Flowers purple, large, about three together, on upright peduncles.

We are of the opinion there are at least two species, if not more, with many varieties. This cultivated convolvulus is a native of the West Indies, from whence it was first introduced into the Philippine Islands by the Spaniards, now spread over the two hemispheres; wherever the thermal condition of the climate is congenial to is habits it is cultivated, for its tubers, which are sweet, sapid and nourishing. The Morning Glory and the wild potatoe vines seen over uncultivated fields, are congeners with the sweet potatoe. Its generic name is derived from the Latin word convolvo, meaning, to entwine. Many of the genus are pests in every part of the world, commonly called Bindweed, and are often destructive to other cultivated plants, around which they twine. Some of this genus are cultivated for the beauty of their flowers, appearing only in the morning and fading before mid-day.

The sweet potatoe is best adapted to a light, sandy soil, but will give a remunerating crop on all kinds of soil. It is a succulent plant, consequently requires but little water. This is the nature of most tropical plants. We might say something of the cultivation of the potatoe, but this is pretty well understood by most farmers, and as book-farming is not fully marketable as yet, we shall forbear, and leave the task to some of the big potatoe growers, who flourished their mammoth tubers on the Editor's table (not the table editorial, but the dinner table,) last fall.

Abbeville.

Natural History of Cultivated Plants for the Farmer.

We have before shewn that we have no proof that agriculture has brought about much change in our cultivated wheat, nor does it supply us with many examples of extraordinary changes in form and organization of any of its products. No varieties of cotton are rendered permanent without the continued intervention of man. A backward tendency is ever in action, and if neglected, the original type results in a very short time. The Horticulturist presents us with many transformations, as it were. The wild crab is the parent of the apple, though we are aware we have, in the Mosaic record, an account that an apple brought ruin to our race. It is said the wild sloe is the parent of all the varieties of the plum, a bitter plant growing on the sea shores. The brassica oleracea has been, by the care of the horticulturist, metamorphosed into the cabbage and the cauliflower, two plants certainly as unlike each other, or both of them, to the parent plant. These changes, by the intervention of man, are among the wonders of nature, and probably attest, more strongly than any thing else, that man's agency can modify, to some extent, existing species of plants.

We can hardly suppose that any combination of accidents, in a wild state, could have brought about these changes, but we find the changes capable of being brought about by the interference of man, reach certain limits, beyond which nature forbids progress. The red cabbage and cauliflower are perpetuated by seed, but requires the continued care of the agriculturist, and with all this we see many plants from the same seed exhibiting a tendency to the original type, and in our climate this soon takes place; the long-legged collard may be properly called a mammoth brassica oleracea. We hazard nothing by the conclusion that no variety of garden plant or fruit is entitled to be called permanent. All the care of the horticulturist is now being baffled. To keep up the existing varieties, he has to begin anew; in a word, a continuous care will not render permanenent any variety of the pear and apple. The non-natural intervention of man, in grafting budding layers or cuttings, only operates as an extension of the life of an indiuidual variety, a little beyond the natural limits to its duration, as we are forced to the conclusion that all life has its limits; old age and death are the conditions of existence in plants as well as animals, and every individual tree has only a determinate existence in time.

The different varieties of cabbages (for we cannot call them races) certainly affords us most astonishing examples of deviation from a common type. This has been done by the application of strong manures, and the continued care of man. They are a kind of pampered pets, which, if left alone, would soon relapse to a state of nature, or into a likeness of the original parent. The present season in most of our gardens has been too dry to produce the cabbage; they are most successfully grown in rich, damp soils, and in our climate, subject to long summer drouths, and light, surface wetting rains, the cabbage garden should be in a low, damp locality, kept free from standing water, both in the surface and subsoil. Fresh English seed should always, if possible, be procured for sowing, never depending on seed raised in this climate, as we shall always be disappointed in producing good cabbages in this way; we shall get a collard towering enough if the soil is rich, but rarely a good looking cabbage.

The horticulturist presents us with strange anomalies; he does in a small way what the farmer should do on a large scale. There is no doubt all the cultivated plants are susceptible of wonderful modifications; this has been and is now being done with cotton; it can be so nurtured and cared for as to vastly increase its products. We can command Nature by attending to her laws. Different soils influence vegetable life, not by any new creation, but by aiding the development of the laws of its constitution. We see the color of the Hydrangea hortensis changed in its calyx and petals (which in common garden mould are red or pink) to a blue, by planting in bog earth or a certain kind of yellow loam. These changes are in harmony with the original attributes of the plant, brought out by the influence of external agents. The change from red to blue is a part and parcel of the specific character of the

plant, showing nothing more or less than the various relations between the physiological constitution of the plant, and the agencies in the different kinds of soil. By observation these facts are tested, and the knowledge may be made available in examining, and searching out, and obtaining modes of changing other plants, either for utility or curiosity.

Hybrid or mule plants. Kobreuter was the first naturalist who made accurate experiments on this interesting subject. Weigmann followed up the experiments with the same success. Since that time many botanists and horticulturists have succeeded in crossing closely allied species, and perpetuating them for a few generations. The plan of impregnation adopted by these naturalists, was to cut off the anthers (male organs of fructification of Linnæus) of the plant to be experimented on, before they had shed a particle of pollen on the stigma (female organ of generation of Linnæus) and immediately applying the foreign pollen on the stigma of the flowers of the plant. This must be done carefully and in due time to insure success. Thus may be blended the colors, scent of the flowers, and even the shape of the leaves of the different species of plants not too remote in organization; but nature let alone soon vindicates herself. We have no data to warrant the conclusion, that in nature or by the intervention of man, any permanent hybrid race has ever been formed, not even in our gardens, capable of perpetuating itself in a state of entire independence; the converse is entirely hypothetical and without proof. All hybrids let alone soon die out, or return to the likeness of one of the original parents.

ABBEVILLE.

Chinquepin Ridge, July 23, '53.

Throw open the Windows.

What a frivolous conception some persons have in regard to the night air. We well recollect the sage warnings so often doled out, to "beware of the night air—the damp night air." One might suppose from the foolish whims afloat on this subject that the air at night is charged with death—that by some strange chemical process it undergoes a transformation of its properties, which make it destructive to human life. Nothing can be more erroneous than this; and we entreat you, if you value your health and buoyancy of feeling, not to let any one persuade you by a false philosophy that there is any thing really injurious in the air, and as much of it as you can inhale by night or day. No one should think of sleeping without having a window or a door open in the room. There should be a constant circulation of fresh air through your apartments.

How many times have you gone into a close room late at night, where several persons are sleeping, and felt the lungs almost suffocated with the foul air which has been breathed over and over again, until it has actually become so impure that a candle burns with difficulty. This is the same kind of air which is sometimes found in the bottom of wells, and which is so destructive to human life. Don't commit suicide by shutting out the night air; throw open your windows and let in the pure, fresh air, and then your sleep will be refreshing.

There are some people who close up every window and door, and put themselves to some trouble to exclude the air from their rooms as much as possible; in the morning they look pale, stupid, nervous and giddy-headed, dragging their heavy forms about the room for some time before the dull, sluggish blood begins to pass freely through the vessels, a goneness at the pit of the stomach and a score of ailments

What would you think of a man who would wash his face in the same basin of water for a week or a month at a time; and yet many act on this principle by shutting their windows and doors and washing their lungs in the same foul air that has passed through them time and again.

We say, throw open your windows, get all the air you can, and let the lungs play freely and oxydise the blood which passes through them, and then if you do not feel the better for the advice, you can rest contented with the fact that there is no fee to pay.—*Southern Organ.*

How to Raise Fruit Every Year.

If rightly understood, few trees, unless absolutely dead or rotten, need occupy ground without yielding a plenteous crop. After a long and varied series of experiments, I gradually adopted the following mode: As soon as the winter has sufficiently disappeared, and before the sap ascends, I examine my trees; every dead bough is lopped off, then after the sap has risen sufficiently to show where the blossoms will be, I cut away all the other branches having none, and also the extremity of every limb, the lower part of which bears a considerable number of buds, thus concentrating the sap of the tree upon the maturation of its fruits and saving what would be a useless expenditure of strength. In the quince, apricot and peach trees, this is very important, as they are very apt to be luxuriant in leaves and destitute of fruit. You may think this injures the trees, but it does not; for you will find trees laden with fruit, which formerly yielded nothing. Of course other well known precautions must be attended to, such as cutting out worms from the roots, placing an old iron on the limbs, which act as a tonic to the sap, &c. Try it, ye who have failed in raising fruit.—*Southern Organ.*

From the Pennsylvania Farm Journal.

Early and Late Chickens.

Perhaps at this peculiar period of hen-roost celebrity, while the attention of farmers and householders is so urgently directed toward the improvement of their chickens, a woman may be permitted to give the result of her own experience, for the benefit of those unfortunate mortals who are unable to obtain the far-famed Shanghai and other imported crowers and cacklers.

I have been nominal mistress to flocks of chickens during at least twenty summers but for a great part of the time I left the management of the poultry yard to whoever was pleased to attend to it. And it was managed after this manner: The eggs were collected for eating as long as the cold spring weather continued, and no hens permitted to set until May or June. Then the earliest chickens were eaten in the fall, and the late, half grown ones kept to perpetuate the stock. It is a popular belief that later chickens lay best in the spring. Well, our chickens deteriorated sensibly. They grew no larger than pheasants, and many of the young chicks were cripples and unable to walk. We were always changing with our neighbors, not only crowers, but hens and settings of eggs; all to no purpose. Finally I began to philosophize upon the subject. I always preserve the earliest setting of peas, beans and other garden vegetables, resolved to try the same with my fowls. I observed that half grown chickens in the fall were only half grown chickens the next spring. So I commenced by "setting" my hens as early as they showed an inclination to hatch, and then selecting the largest and finest of the chickens for my next summer's stock. (I also keep one crower for every five hens, and have no lame chicks.) Now I have as large, fine, hardy and prolific fowls as any reasonable woman can desire to possess.

LYDIA JANE PIERSON.

WALNUT HILL, Ga., July 29th, 1853.

MESSRS. EDITORS:—As you are great advocates of turning plows, I take the liberty of asking you a few questions in regard to the different soils of our country. I have noticed some of your articles on this subject, containing your experience, but they all seem to me to fall short in one very important particular, and that is your neglecting to tell us upon what kind of land they were made. I have always heard it said that the same system of culture was not adapted to all kinds of land. Now, you are aware that in this country we have but two kinds of uplands, commonly known as red and gray lands. Now, is the same system adapted to these kinds of lands? The gray is the most porous, and never bakes after heavy rains, while the red does. I have frequently heard it remarked that turning was injurious to the gray, while it was beneficial to the red. How is it?

I have both these kinds of land to work, and would be thankful for a system of plowing to suit them. I hope you will answer the above question, and give your opinions freely, as I am prompted by a desire for information.

Yours, J. R. EARLE.

REMARKS.—If you have all our back volumes, friend E., and will refer to them, we think you will find that we have not recommended the same course of treatment to every variety of soil. Though we *do* believe in the use of the turning plow, we would not have it used indiscriminately on all soils; though we do believe it should be used on light as well as on stiff lands, yet we would not use it at the same season, except for reasons below stated, or run it so deep on the former as on the latter. In turning stiff land preparatory to a crop the following year, we prefer the fall or early winter for the operation. Not so with sandy soils, however, unless covered with a heavy coat of not very easily decomposed vegetable matter, or underlaid with a stiff red clay subsoil, a portion of which we might desire to bring up, and after exposing it to the action of a winter's frost, mix with the soil in order to change its mechanica and physical properties, and thereby render it more retentive of moisture, manures, &c. This being the case with most of our light lands of the up country, the same course of treatment will apply to both. If, however, the subsoil of light land is composed of a light porous mixture of sand and yellow clay, then a different treatment would be indicated. We do not suppose such land would be benefitted by the action of frost, and if not, fall plowing would be unnecessary, if not positively injurious, consequently we would recommend the spring for the operation, when the turning plow *should* be run, provided there is much vegetable matter to turn under, and after it the subsoil plow in the same furrow. This subsoiling would, by many, no doubt, be considered unnecessary, at least. But we have never yet seen *any* land injured by subsoiling, nor is there any danger of it, especially where the business of under draining has been properly attended to.

We know it will be thought by some that by under draining and subsoiling we are opening an avenue for the escape of manures, by "sinking," or leaching its soluble parts out of the soil. Not so, however, if there is either vegetable mould or clay to be found in the soil, either of which will take from the water holding them in solution all such substances and retain them for the future use of the crop, although the superabundance of water may pass down and make its escape. Besides, under draining and subsoiling not unfrequently deprives the soil and subsoil of substances that are deleterious to our growing crops. For instance, such land as we now have under consideration, has in its *yellow* clay subsoil an undue proportion of iron in a state (that of a protoxide) which is soluble in water and positively, in large quantities, detrimental to the healthy growth and perfection of our cultivable plants. From the chemical action of the air, that is taken down with the descending water, the protoxide undergoes a change to that of peroxide, which is no longer soluble in water, and consequently harmless.

In cultivating crops on light lands, especially, (and not unfrequently in heavy lands, too,) we make too free use of the plow. If the surface can be kept clean otherwise, which it may, and we were to use a heavy roller instead of a plow it would be better for the crop.

After turning and subsoiling in the spring, our practice is to run a heavy roller on the reversed sod, and we do this, also, on sedge land, whether light or heavy, that has been turned down in the fall or winter, in order to pack it down close, and to make the surface as level as possible. Then, before planting, we use the heavy iron toothed harrow, or a light cultivator. The land is then furrowed off lightly and planted, and in the after culture nothing is allowed to be used but the cultivator, sweep and hoe. The practice of running a deep plow on land thus prepared, would, in our humble opinion, be a most unwarrantable one, either for the growing crop or for the future benefit of the land.

By rolling and harrowing the surface we lock up everything which is intended by its decomposition to benefit the land, and to contribute to the growing crop. The use of a deep running plow would defeat these desirable objects by opening avenues of escape for the gases that would otherwise be absorbed by the soil and appropriated by the growing crop.

Every consideration seems to us in favor of the propriety of preparing for our forthcoming crop all turf lands, or lands having on them any vegetable matter, by turning under as above suggested, for in addition to what has already been stated in its favor, the very important business of cultivating the crop is greatly lessened, both to man and horse, as we have satisfactorily proven that not much, if any, more than half the labor is required in the use of the cultivator, sweep and hoe, as by the usual practice of plowing three to five times and hoeing from one to three or four times. One important item, the expense of additional horses, (proportioned to the land cultivated according to the present mode,) might be dispensed with, especially if oxen were used in preparing the land. And that one or more teams over the ordinary number kept might be advantageously used at this business in the fall, winter and spring, and then being of no further use for the season, turned to pasture, but few, we presume, on reflection, would doubt.

On another page of this number you will find something more that we have said in favor of turning plows. And we will here say, in addition to what we have there said, that we of the South will never become a land-improving people without their use.

But we will here take it on ourselves to *caution* our friends against purchasing the *cast* plow of every description. They are unreasonably high priced for the work they are capable of doing on our *grinding* soils, before requiring to be renewed in some part, points, shares, &c., and unless we were nearer to the manufactures, it will be found quite inconvenient, and sometimes impossible to get them at the time wanted. It is pretended by the makers that the "chilling" process which the points, &c., undergo, renders them very hard and durable; but not so, according to our experience. This "chilling" process is a very superficial one, and in our sandy, gravelly soils, the hardened surface is soon worn away, when we have nothing left but porous, soft pot metal, which will not wear better than our softest rolled iron. Let us recommend instead, the wrought iron or steel plow, which, when out of order, may be repaired at our own shops.

We see Mr. SINCLAIR of Baltimore is offering a steel plow—steel throughout—point, share and mould board. We intend sending for one of these plows, and will report on them to our friends at some future time. We have seen, recently, two steel turning plows, now in the possession of our neighbor, Mr. VAN WYCK, which was made in Indiana; the name of the manufacturer we do not now recollect. With the appearance of the plows we were much pleased, but are not aware that they have yet been tried.

In conclusion, friend E., we refer you to an article selected in this number on the improvement of worn out lands, from which you may gather something of more value to your future operations than we have given above. We hope our subscribers will not feel any delicacy in asking of us any information in our line, for we consider they have *employed* us to give what we know or believe to be right, and it accordingly shall be so done.

FOOD FOR CHICKENS.—Boiled potatoes mixed with course corn meal is perhaps the best food for fattening poultry.

For the Farmer and Planter.

Plain Talks for the People---Clay.

Old father Standstill declares "clay to be death on truck, and of no use." The old gentleman never made a greater mistake in his life. It is the greatest—we might say the only—*natural* absorbent of gases and manure preserver that we have.

There are ninety-five parts out of a hundred of corn nothing but carbon and water. Where do carbon and water come from, but from the world above? Is it not plain, then, that the deeper you have your soil, the greater will be its capacity to retain every thing that enters it fit for the food of plants. All the filth, decomposed vegetable or animal matter, on this wide earth, is either absorbed by the clay, escapes by evaporation into the air, or is washed away into the creeks, rivers and oceans. Yet an all-wise Providence designs that nothing shall be lost, for by the evaporation of seas, creeks and rivers, the air is again filled with water, and fertilizing agents descend upon us through the air, dews and rains of heaven. No substance on this earth is food for plants unless it is soluble in water. Stick a pin there, old father Standstill, will you? Here is an additional reason for deep plowing. If your land be plowed deep enough to retain the water holding in solution the food of plants, it will not be leached out and washed away by the rains, to enrich somebody else. "But," says old father Standstill, "this is all nonsense—book farming—humbug."

My old friend, will you try a simple experiment? Fill a ten gallon keg half full of clay, pack it down tight and fill the keg full of that black, manure water, standing in the pool of your horse lot, and tell me if the water is black, filthy or offensive when it runs through the hole you bored in the bottom. Now take a half keg full of *pure* clay, and put it about the roots of a few corn stalks, and then take the clay that was *in the keg* and put it about the roots of other corn stalks, side by side and tell me if there be any difference in the growth and luxuriance of the stalks. Or you may rake up a pile of the richest manure of your stables, cover it up carefully and closely with the meanest red clay you can find, and we'll lay you a wager that measure for measure applied to corn or cotton the clay makes the most, soils being equal and cultivation alike. Drive ahead, then, and fear not. Stick your plows down, and as Paddy said, "Sock it up to the bame." There is no danger; if the old field ever was any account it will improve under it; if not, you cannot hurt it much.

Implements.—The next thing to be considered in the course of improvements, is the introduction of improved agricultural implements. "It will never do in the world," says old father Standstill, "you'll dead sure ruin your land, if you take to working it with them subsilers, harrors and cultivators and Yankee fixins—all made to catch your money—nothing else." And so said father Standstill when Fulton launched his steamboat on the river; but Fulton was a hard-headed fellow, and wouldn't listen to him. So said he of ocean steamers; but ocean steamers have succeeded wonderfully. So said he of the spinning jenny, the railroad, the plankroad and a great many other inventions that have proved blessings of incalculable value to the human family.

If we wish to improve in *earnest* our system of tillage, we must make up our minds to give up a plow like a hoecake, stuck on a stock with a three feet beam, perpendicular handles, a mule at one end just laying down to it, with the back-band across his loins, and a negro at the other end walking tip-toe, in a dead strain to keep his plow from jumping over the mule, and his arms jerking in euery direction, like a fellow with an old fashioned shaking palsy. We must have something that will go into the ground, without riding on it, and run along without jerking a man's muscles to pieces. A plow can be constructed to run smoothly and deep, almost without a pound's weight being applied by the driver.

Most of the Northern plows are objectionable, from the fact that they have cast points. If we will begin to use them, however, our smiths will soon learn how to make wrought iron points, our iron masters soon how to cast the mould boards, and our mechanics to make a stock as good as the Yankees. We want a little head work applied to this business of farming—a little ingenuity exercised in working out the improvements necessary in our farming tools.

"Head work! nonsense—book farming again," quoth father Standstill. Yes, my old friend, and so you said about the cotton gin, when it was invented—that it would ruin the business—it would throw all the old women out of employment, &c. Now, my dear old practical soul, will you tell us how many old women it would require to pick out with their fingers a four million bale crop, and how many suits a-piece per annum our folks would get if Sir Richard Arkwright had not inventen the spinning jenny.

The next thing in the way of improvement is rest, judicious rotation and manuring. At the bottom of all our difficulties there is one about which it seems almost needless to speak. We have too much land, and are never satisfied unless it is all under cultivation. Every year of our lives do we see people over-cropping themselves, and half cultivating their crops, simply because "we had the land, and did not want it to remain idle." There never was a greater fallacy. Let it alone; nature understands exactly how to restore it, and with a little help will do it for you very economically. If land were worth $100 per acre the case would be different; but where it is as cheap as it is here, it is folly to run it to death. As only five parts out of a hundred of all plants consist of minerals taken from the soil, it is very plain that rest can be made a very important auxiliary in the restoration of land. The soil should never be left bare, if possible, winter or summer. Some growing plants should always occupy it, to seize upon the soluble salts, which would otherwise leach out and be washed away. For this purpose we have for years past, at our last plowing of cotton, sown half a bushel of Mediterranean wheat or barley to the acre, and it has kept the land from washing, and at the same time furnished an admirable pasture for small stock during the entire winter months. When the ground was dry enough we allowed our milk cows to run upon it, and they gave an abundance of milk.

When you have taken one crop of corn or cotton, followed by wheat or oats, from a field, it is time to let it rest. You may pasture it the year the small grain is taken off, but the next year it should be closed against all stock A luxuriant growth of weeds will cover the ground, and afford you a valuable green crop to turn under in the fall. A great outcry has always been raised against weeds. Every man to his notion. But we take it that nature understands her own laws better than we do. She shoots up a pine upon an old field because an oak cannot flourish there but the pine soon prepares the ground for the oak. She throws up one variety of weed, which, striking its roots deep down into the subsoil, brings up the latent mineral manures which has been taken out of the surface soil by repeated crops; then spread out their broad leaves, and white prove the atmosphere their proper food

This class soon dies to give place to another of a ranker growth, and the same rotation goes on. It is to us a very interesting study, this ever changing weed rotation that nature is carrying on. Every year we meet with a stranger that has never visited us before. They all have their uses; even the bull-nettle or "tread-saft" tells us, by his deep roots running to the bottom of the well, that he is working for our benefit.

By a judicious rotation, rest, the native weeds, the Southern pea and careful saving of all barnyard manures, backed by good deep plowing and thorough cultivation, we can easily restore much of our land to fertility, and certainly save that which is not ruined from destruction.

BROOMSEDGE.

Big Branch, July, 1853.

For the Farmer and Planter.

MESSRS. EDITORS:—Your subscribers in this vicinity feel very much indebted to the "Farmer and Planter" for many valuable suggestions in agricultural affairs; but indeed our district is so very far behind the times in such improvements, and so remote from those places where they are progressing, that it is some times very puzzling to us to comprehend a new mode or imagine a new implement of culture. Such being the case, and knowing that you are gracious to assist all those who seek light, we take leave to state a few opinions, and therefore, in order to carry them into effect, to propound a few inquiries.

We believe firmly that all land, in order to realize the most per acre from it, and progressively improve it, should be *deeply plowed* or subsoiled; *(a)* that this plowing should be done preparatory to planting the crop; *(b)* and could we break all our cultivated land to the depth of twelve inches, *at least*, we will have accomplished a great improvement; that the surface and subsoils should not be reversed, but that the plow used should penetrate the soil at least twelve inches, and should loosen up both surface and subsoil in their natural position; *(c)* that a subsoil plow for economy, should be of wrought material, and such an one as can be made by any good smith. Should we use a subsoil plow, we would expect to apply *labor* to its use, but would not wish that labor too severe for hand or horse. Understand us, you have already recommended in your paper many subsoil plows and many modes of subsoiling, but we would now inquire what plow for the purposes above stated would be *most* economical in original cost, repair and use? Would it be a one or a two-horse plow? Where can *such* plow be obtained as a pattern, and at what expense? *(d)*

FARMERS AND PLANTERS.

Glenn Springs, S. C., July 4, 1853.

REMARKS.— *(a)* We believe the same, Messrs. FARMERS AND PLANTERS, but instead of saying "deeply plowed *or* subsoiled." we should say "deeply plowed *and* subsoiled." And we would be understood by *deep plowing* to mean that the depth should be regulated by the depth of the soil; for instance, a soil of four inches depth we would consider deep enough plowed with a surface or turning plow running to the depth of five inches. Then in the wake of this plow the subsoil plow should follow to any depth that a good strong team of at least two good horses are able to carry it, which will be with the Broyles plow—according to the nature of the subsoil and the strength of the team—from five to twelve inches.

(b) It is considered the most convenient time to subsoil when breaking the land preparatory to planting. We have found, however, on close, stiff subsoils, liable to be run together and consolidated by the heavy spring rains, that subsoiling proves more beneficial if performed at the time of first plowing the crop. There are objections to subsoiling at this time, however. The first is, that the time cannot so well be spared now as at an earlier date; and secondly, that in operating with two horses—and the work cannot be *well* done with less—the young corn is apt to be injured by the hoof. In turning sedge or turf land, which should never be disturbed by running a plow down into it in the cultivation of the crop, the proper time for subsoiling is. undoubtedly, when breaking up the land, and in the furrow immediately after the turning plow.

(c) That the subsoil, except about an inch at each successive breaking, should not be brought up and reversed, we are willing to admit, but not so of the *soil*, which we should prefer reversing, and more especially if there was on the land much vegetable matter to turn in; and this turning, on a shallow soil. should be done as already stated, so as to bring up at least one inch of the subsoil, until a proper depth of soil is attained.

By turning in green crops, manuring, &c., the shallowest soils in our country may, in time, be brought to any desirable depth. And we will here remark, that we have never known or heard of an instance of a soil being permanently improved without the use of the turning plow. Look at England; look at our Northern States, at every State in the Union where lands cleared many years since, worn out by the skinning system and abandoned, and which are now re-occupied, and in a rapid state of improvement, and say whether you can point out a single instance where the turning plow is not in use. And so it must be with us of the South; with all our prejudices against it, we must come to it at last. or pull up our stakes and flee to the far West, leaving our homes for others to occupy, who may profit by our loss.

(d) The Broyles subsoil plow is, for all the purposes enumerated by you, decidedly *the* plow, in preference to any and all others that we have seen in use. It is a wrought plow, that any good smith can make, and any man, white or black, that can stock a shovel plow, can stock. It is cheap, and not liable to get out of order, and if it does, is easily repaired; and last, though not least, does *better* (deeper) work with the same force than does the celebrated Ruggles & Nourse cast plow, with which we, as one of a committee of the Pendleton Farmers' Society have seen it fairly tested. It is not patented, and is free to be made by any one who may choose to do so. It may be obtained from Messrs. GAILLARD & SLOAN, at Pendleton, at from three dollars to three dollars and fifty cents, with or without a clevice. We will take pleasure in ordering one for any friend who may desire it, for a pattern or otherwise.

On the subject of the improvement of worn out lands, we refer F's. and P's. to several articles to be found in our work since its commencement, and especially to our remarks and following article at pp. 122 and 123, vol. 1st. Also p. 79, vol. 2, on surface and subsoil plowing.

From the (Charleston) Southern Agriculturist.

On Improving Worn-out Lands.

DEAR SIR:—In your last favor you say that "about three years ago you published an article in your journal, wherein I recommended the owners of poor lands to improve them, by planting a crop of small grain; then peas, broadcast; and these to be ploughed under before hard frost, for the next year's culture." This, I said, was the practice in Georgia. At your request I am now prepared to testify to the excellence of the suggestion, by my own and the experience of others. To any kind of soil green matter turned under is ever an advantage, because it returns to the earth what it takes, and much that it has absorbed from water and the atmosphere. However, a few general remarks are necessary before I give you "my say."

It seems that near every exhausted soil in this State there is some material in approximation to revive it—that is, clay or marl, high sandy lands and vegetable matter in a state of nature, to be produced by culture—nigh all of them. And to one or more of these materials must be looked for the renovation of the soil. By mechanical or chemical combinations it may be made susceptible of improvement; but after all, vegetable matter in decomposition, or any substance that, when decomposing, will give out the elementary principles of vegetables, such as carbon,

hydrogen and oxygen and constitute the food of plants. Moreover, it will be found in the culture of corn or cotton, or in any other crop planted in as large quantities to the hand as we do, the soil must be invested by some material in approximity, or the yield will not pay for the cost of manuring. Manures that act as chemical agents, that is, that induce the decomposition of the vegetable matter, may be fetched from a distance; but it will be found that, for any other purposes, their expensiveness will not pay the planter in the yield of short cotton. If these premises be corect, of which my attention to manures has assured me, the first questions for the owner of poor lands to ask of himself are, 1st, What is the nature of my soil? Is it chiefly clay, or marl, or sand? or combined of those three original earths? 2dly. What vegetable matter have I nigh me, or if none, or not in sufficient quantities, how shall I procure it?

To the first inquiry, after he is answered, he will then say—*that soil which absorbs most moisture from the atmosphere, and readily gives it out, is the best for cultivation*; and that a due admixture of clay, sand and marl, presents the soil desired; and if there is no marl at hand, clay, mixed with sand, or gravel or sand mixed with clay, he may use as next in value. Now, to make these combinations of soils, either of two plans may be selected. The first and most effectual would be, to cart into the field that one or more of the "original earths" required, and plow them in: the second would be to mix them in the cow-pen and stable with the manure, to be carted out. Having in this way *created a soil susceptible of being improved by manure*, the planter should then look to the second question, which, because of its importance, I shall dwell on somewhat at large.

To the second question. If the planter has an abundance of dry leaves at hand he may use them; if not, he may plant rye or wheat, which, being winter growths, can be turned under for the spring crop. And as I am satisfied that the planters of short cotton in the middle and upper country will sooner or later have to use dry or green vegetable matter as a manure, to the relative value of each let me call your attention. I must also request you to bear in mind, that I intend my remarks to be applied chiefly to the middle country, the dry vegetable matter of whose high lands is less decomposable than that of the sea-board, and therefore must be used with more preparation for *instant crops*.

I have used dry leaves beneficially, both for corn and cotton, on sandy lands. How much more so, then, would they be on cold, stiff, moist soils, you may easily conceive. I have noticed that those leaves which produced the most *potash* or the most *gum*, are the best. Not because of the greater proportion of ligneous matter in them, but because such leaves are more readily decomposable than others, and their nutritious particles more soluble in water, in which form the roots of plants consume them. The gum leaf, *for a present crop*, is the first; then the hickory; then the oak; and lastly, pine trash. The yellow pine leaves cannot be used for a present crop, for they are *resinous*, and for nearly a year *insoluble* in *water*, or, in other words, indecomposable. Dry leaves yield one-seventh of themselves in manure, warm the earth in their act of decomposition, and, by opening fissures in it, admit air to the roots of plants. Yet they are by no means so valuable as the turning under of green vegetable matter, because *they cost more and do not afford the same nourishment.*

I selected the best hand on my place, the driver himself, and ordered him to see how many loads of gum or oak leaves he could rake and cart in one day; and though the leaves were close at hand, the result was but five loads. He might have carted more, but the difficulty was in the filling of the cart. We have no utensils, and, indeed, it would be difficult to invent one, with which to load; so in "my parts" we have to use a basket, trample the leaves in it, and then in the cart. With pine trash we might use the ordinary fork, but the oak leaves fall through its prongs. I allow, then, that the driver, horse and cart, are worth fifty cents a day; I would not hire the same under one dollar. Now I am satisfied, by experiment, that not less than one hundred cart loads of leaves to the acre will benefit cotton land, so as to make an *impression* on it; and to cart these it would take twenty days, and therefore cost ten dollars.

Now, let us plant rye in September, to be turned under in June or July, *while in flower*, with a broadcast of peas; and these to be ploughed in before hard frost, for the spring culture.

One single plow planting an acre or more per day, is - - - -	$ 37½
Half bushel of rye to the acre, or less,	50
One single-plow to plant peas broadcast,	37½
One bushel of peas, or less, - -	1 00
One double-plow, to turn under pea stubble, - - - - - - -	62½
	$2 87½

$2 87½ deducted from $10 leaves a balance of $7 12½ in favor of green vegetable matter. And this is not all; it has been discovered by chemical analysis, *that while green vegetable matter contains one-fourth of manure. dry vegetables conein one-seventh.*

But let me take another view. Suppose that by some invention or improvement in the construction of the cart and fork, a hand might increase the number of loads carried in a day, could one have the smallest hope that he would accomplish twenty? or if he did, that is, reduce the price of carting leaves to $2 87½ the acre, would it be as valuable as green vegetable matter, which turns out nearly double the quantity of manure? But it may be said, that one hundred cart loads of leaves, though containing *relatively* less, will turn out, on account of bulk, or quantity, or weight, more manure than a crop of rye to the acre. To this I reply, that to produce the same effect on the acre as rye, the leaves must be double its *weight*; and that they are not, you may decide, should you have ever seen the rye in flower, compared with one hundred cart loads of leaves strewed over an acre. The one may contain more bulk, but the former is heavier, and will afford more manure to the soil, independent of the pea stubble, the nutritious qualities of which have been too long known to be denied.

However, I need not inform you how much green vegetable matter is valued as a manure; the books are full of its praise, and none presents a greater number of proofs of its effects than Chaptal's. Whoever uses this manure should not forget *that green vegetable matter should be turned under while in flower, or before it goes to seed.*

Chaptal says. page 94:

"In order fully to understand this doctrine, which appears to me of great importance to agriculture, it is necessary to consider the successive changes which take place in annual plants during their growth; first, they produce green leaves, which, by coming in contact with the air, receive from it the principles of which I have spoken; subsequently the stalks increase in size and number, and are covered with numerous leaves, which absorb from the atmosphere a degree of nourishment suited to the increasing wants of the plants; the strength, fullness and depth of hue of the leaves and the stalks, particularly of the latter, increase in proportion to the richness of the soil.

"This state continues till after the period of *flowering*, when a change worthy of note takes place; the roots dry up, the

stalks wither and change their colors; and when fructification is at length completed, both roots and stalks have become mere skeletons, which answer but little purpose either for nourishing animals or manuring earth. During this period of vegetation, what becomes of the juices that were so abundant in the roots and stalks? *They have been consued by the formation of the seeds.*"

To illustrate this, he gives the experiment of M. Matthieu de Dombasle. This gentleman on the 26th of June, 1820, at their time of *flowering*, within a small space selected forty wheat plants of equal size and strength, each having three stalks bearing heads; he pulled twenty of them, with all their roots, and left the rest to complete their fructification. Having carefully freed from earth the roots of those he had taken up, he cut the stalks two inches above the base, and dried separately the roots, and the stalks surmounted by their heads."

The roots and the portion of the stalks remaining with them, weighed, *grains*, - - -	657
The stalks, heads and leaves,	1946.5
Total, - - - - -	2603.5

On the 28th of August, the time of harvest, he plucked up the twenty plants which had been left for seed, separating the roots and cutting the stalks as of the first; of these, the weight was as follows:

	grains
Roots, - - - - -	319.53
Straw, husks and beards, -	1318.75
Grain, - - - - -	1025.69
Total, - - - - -	2763.97
"During these two months the roots and the portions of stalks adhering to the them, had lost	236.52
The stalks, heads and leaves had lost - - - - -	624.27
Total loss, - - - - -	862.19

"But as the seed weighed 1025.69 grains, the whole had increased in weight 160.47 grains, Troy. From this experiment we may conclude that the juices contained in plants at the time of flowering contributes to the formation of grain in the proportion of 862 19-1025.97ths, and that the excess of the weight of grain, which is 160.47-1025.97ths, arises from the nourishment which the plant absorbs from the air or soil, during the two months of fructification."

From this experiment we at once see the importance of turning under green crops while in flower, or before they go to seed. The effects of this process are, then,

1st. Green matter returns to the soil nearly double that of stubble.

2d. By plowing it under in flower we have less grass to contend with the next spring.

3d. By exposing their roots to the sun or the coming frosts, many parasitic vegetables are destroyed, and decomposing, add something to the productiveness of the soil.

4th. By the destruction of roots and parasitic vegetables, less manure is taken from the soil during the winter.

5th. This matter decomposes, and is absorbed by the earth for *early* crops.

6th. The earth has not only received its first required plowing, but is beneficially exposed to the winter frosts.

Yours, truly, C. R. C.

For the Farmer and Planter.

Col. Williams' Farm---Its Management.

MESSRS. EDITORS:—As a desire has been frequently expressed by some of your contributors, to have some of the farms with all their conveniences, as well as the mode of cultivating the crops and attending to stock, described in the Farmer and Planter, I have thought to give your readers a description of the farm of my friend, Col. JOHN D. WILLIAMS, and his mode of management. On a recent visit to his place, "White Plains," in the lower edge of Laurens district, we were received and entertained with true South Carolina hospitality. No show—no bluster—but with a simple warm-heartedness that showed that we must all feel at home. His dwelling is situated on a beautiful rising ground, surrounded by a large grove of native oak, all thinned out and topped, and is about one hundred yards from and fronting a public road that runs parallel with it. His dwelling is a large and convenient two story painted house, in the shape of an L; piazzaed on three sides, with an extensive yard all paled in. In the east end of the yard his well is located with a milk house, in which is a trough hewn out of rock, and is 10 feet long, and 14 inches wide; the first third of which, when filled with water, is 3 inches deep, the second third is 6 inches, and the other third is 12 inches deep. By a tube the water is conveyed from the pump into this trough, where milk and butter are constantly kept cool and fresh. At the far end of this trough is a gutter cut in the top edge to let the water run off without running over. And from that end the surplus water is received in another tube which conveys it under ground and up a hollow post to another trough in his stable lot, where his horses are watered. Thus you see all the water used for his horses goes through the milk trough. In his yard, also, is an ice house walled up with rock, over which is a neat brick building, used to keep flour and salt; also a framed kitchen, smoke-house, meal room, and to the right, in front, is a neat little study-house. Between the front yard paling and the road, is an open and beautifully level lawn, with plenty of native trees, all topped. This lawn is divided into three lots, all paled; through the middle of the centre one, the carriage way passes to the road. These lots are for grass and clover. Beyond the road in an extensive grove, and placed in a row, is a brick black-smith shop, a framed work-shop and a framed carriage-shop. To the west of the house is a three acre garden, handsomely paled in, lying very level, cultivated well and was full of vegetables, grapes, some choice fruit trees, shrubs and flowers. Intended mostly for a vegetable garden. Behind the garden are three acre lots inclosing a part of a large forest which is itself fenced in, containing some 500 acres. One of these lots is used to feed hogs and confine them in at night; the other with a shelter in it is used for select young cattle, of which he usually has about 40 head—the other is used for sheep. To the east of his house, is a large wood lot, in which he has three large barns, and stables enough to comfortably shelter 40 or 50 horses, three large corn cribs with a shelling room between, and a carriage house, all conveniently and well arranged. Adjoining this to the north is a cow lot with good shelters and stalls for about 20 milch cows. North of his house is a back yard in an open grove. In this grove are two rows of neat, framed negro houses, painted white. a well for watering, washing, &c., 2 large boilers in which all his milch, cows' food is boiled. Back of this grove on a high level ridge, are located a cotton gin, 80 by 30 feet, with a lot around it, a shuck house 80 feet long, with stalls, and a large trough running through its centre, to feed cattle in, and a lot around this—a threshing machine 80 feet long and a lot—a barn and set of stables 120 feet long for fine horses, with a well fenced lot, all in good condition. This grove is part of 500 acres of wood land, all enclosed, through which a small creek runs. Gates open from this into two large meadows. Below the road, on the same creek is an-

other of 100 acres or more; still below is another where his choice heifers are kept. On each side of this row of meadows are his cultivated fields, and from which he can pasture any of this double row of fields when in a situation to be pastured.

Upon this plantation, new comprising about 3,000 acres, Col Williams tells me he has made nearly all the property he now possesses. Except in the few first years of his starting, and that when he attended to it himself, has mercantile business ever been profitable. And altho' engaged in farming and planting as a primary business, his mind seems to have grasped every other thing belonging thereto that served to interest or add pleasure to the life. Consequently he has not spared money in procuring and rearing the best stock of horses, the best cattle; also, sheep and hogs; and his yard is full of a great variety of poultry, embracing the Cochin China, Hamburg, Cuba, and Mexican chickens, the Bremen geese, besides all those common to the country.

Of horses, besides those for his farm, carriage and riding, he has a full blood Canadian; 12 or 13 colts under 3 years old from this Canadinan, and an imported English horse formerly owned by ——. Of cattle he now has 4 Durham heifers and 1 Durham bull, imported, 3 Devon heifers and 1 Devon bull, imported, and about 50 others, all of the Durham stock, all raised by himself, except the bull. Of sheep, he has 6 imported Marinos, and 110 others of the Bakewell stock, originally from the imported stock. Of hogs, he raises enough to make bacon for all his family. His hogs are a mixture of the Grazier, Quaker, Berkshire and Woburn. Besides what he needs for his own use, of any of the stock he raises, and what of it he gives to his friends, with which he is quite liberal. he has several of each kind to sell. His prices are below the northern, and yet enough to make it profitable.

As he has shown that a cotton and stock farm may conveniently and profitably be blended in this state, I will give you his mode of conducting the one and managing the other.

All his bottom land he appropriates to meadows and cultivates up land only.—His system has been to divide the land he cultivates, as near as he can into four parts, He puts one-fourth in small grain, next year in cotton, next in corn, next in small grain, and then rest. The other fourths in the same rotation.

As early in September as corn gets hard he commences to house it. He gathers one field, pastures it a little, and then sows it in winter oats—which he commences to do as early in October as he can. He then gathers another field and sows that in winter oats, and so on till he gets enough oats sown. He also sows his colt and calf lots early in September, with rye and barley, or rye and wheat mixed—all of which is done with the common scooter and shovel. He then sows the rye, then the barley, then the wheat, and finally the spring wheat, and endeavors to get all this done by the 10th of December. During this time, in good weather, the other hands are picking cotton. When it is clear and too wet to work in the fields all hands are raking and hauling leaves to litter the stables and lots—the cow lot, sheep and hog lots to make manure for the cotton in the spring. After the grain is all sown, then the plows brake up the stubble land, preparatory for cotton.—Early in January he commences to prepare the cotton land, which is done by opening a furrow, putting the manure in and then bedding on, by plowing out the middles. All the manure is put in the cotton beds, except cotton seed, which is hauled and left in piles in the cotton field intended to put in corn. The cotton rows are laid off as near horizontally as can be done, after the field has been well secured by drain ditches, at distances apart of from 2.10 inches in the poorer places, to 3.6 inches in the richer. All this is to be finished by the 10th of March. Then the corn planting is commenced. This he plants where cotton was last year, having carefully kept all stock out of these fields and without breaking up, every other cotton bed is opened by long scooter or subsoil, followed by a long shovel, after the stalks are whipped down. Without further preparation the corn is dropped in these furrows, two grains in a place, from two to three feet apart. The dropping is done by good hands, each one having a stick to measure with occasionally, to see that he has the proper distance. Immediately after the corn planters, other hands follow with baskets of cotton seed and put a handfull on each side of the hill of corn, some ten inches from the corn, but in the same furrow, which is covered with the corn by two scooter furrows.—Other plows, either scooters or shovels. follow and break out all the middles and cover up all the broken cotton stalks.—The corn planting should be done by the 10th of April when the planting should commence. This is done by opening the beds, already manured, with a small scooter, dragging just behind it a triangular block some two feet long with the sharp angle down. This leaves a smoothe open furrow, sharp at the bottom, into which all the seed after being well rolled in ashes drop. The seed is covered with a double footed plow, with two small scooters on it. And just as the seed begin to sprout, the ridge is knocked off with a harrow. When the cotton gets up it looks like a green ribbon was stretched along the row.

So soon as the cotton planting is finished, and while it is coming up, the ridge on his corn is knocked off, and as soon as the first planted shows a stand the corn is run round with two scooter furrows on each side. These plows are preceded by the replanters, and followed by all the hoe hands. Which hands both hoe and thin to one stalk. By the time this working of the corn is done, the cotton with favorable seasons is to a stand. The whole row is then plowed out with the cotton cultivator, or a common scooter with a mould-board throwing the dirt from the cotton, and starts the hoe hands immediately after the plows. The row is choped through with the hoe, leaving from one to three stalks in a place, from 10 to 12 inches apart, the chops filled up, the grass cut out, if any, and the bed left level. So soon as the cotton begins fairly to grow from that time the balance of the crop is thinned to a stand, which is one stalk to a place. When the plows get over the cotton, they are put into the corn, which gets another full plowing, all the row out. Then back to his cotton. And so alternating till the corn has three plowings, after which the cotton gets one more and sometimes two plowings. The hoe hands after they commence hoeing cotton, are kept there all the time except harvest, untill the cotton is laid by.

While the farm is too wet to work, all through the summer and winter, all hands are hauling in leaves and making litter for the horse, cow, sheep and hog lots, and when sufficiently cut up, is put while wet in pits or pens.

All his bottom lands are used for grazing meadows, and is covered with white clover and native grasses. His cattle are well housed in winter and fed on cut shucks and straw. The milch cows are kept stabled and haltered, and fed on cut shucks, wheat bran, turnips, straw and sometimes a little meal, all boiled well.—Sheep also have a winter shelter to feed under but are at liberty to go out, and are

fed on pea hulls, peas and turnips. Hands are set apart to feed, one to the horses, another to the cattle, &c.

His summer place above Laurence I understand is arranged very much in the same way, and equally convenient. Thus Col. Williams has shown by many years experience that a stock farm and cotton planting, may be so blended as to make both profitable, and at the same time add much to the comforts of good living.

Yours, &c., R. F. Simpson.

From the (old) Southern Agriculturist.

On the Improper Use of the Plow in the Cultivation of Indian Corn.

Mr. Editor:—By request, I submit to you, for insertion in the Agriculturist, some remarks and experiments I have made to prove that the plow is frequently used too late, and much to the injury of our corn crops.

It is well known to rice planters, that when rice is in joint and forming its ear, every effort must be made to advance its growth, so that good ears may be formed. The same effort, to effect the same result, is necessary with corn, and all other grains. When the ear is about to be formed, the atmosphere has less influence on the plant than previously; therefore more is required from the roots. If the soil is fertile, and well broken up with the plow previous to planting corn, innumerable small fibrous roots will run laterally, in search of nutriment, to the distance of six or eight feet, and sometimes as far as twenty feet. These laterals are very small, and easily separated from the stalk; if cut by the plow when the plant is young, no injury will be sustained, and perhaps a benefit: but they must not be cut or disturbed in any way when far advanced towards maturity. Without their aid at that period, the perpendicular, or tap-root, will not be sufficient to produce good and well filled ears. It is not unfrequently the case, that the plow is used when the corn is in silk, and at that time these lateral roots are very numerous about the surface of the ground, and must necessarily be cut much to the injury of the crop. I have made several experiments which prove conclusively that the perpendicular or tap roots are not sufficient without the aid of the lateral roots to produce good and well filled ears; and that, if the plow is used too late, a good crop cannot be expected. For my experiment I selected eight well-grown stalks, just before shooting out their tassels. I had the earth cut round two of these stalks about six or eight inches from them to the depth and width of the spade, and the earth removed so that I could see that all the side roots were cut. The earth was permitted to remain in this situation until the corn was matured. The stalks looked well, and the ears appeared to be well filled; but, on examination, it was found that there were but a few scattered grains in them.

In the next experiment a cut was made around two stalks, with a spade to its depth and width, at the same distance as above. The cut was permitted to close immediately, no earth having been removed. The result was, small ears, not well filled.

The third experiment was to cut the roots on two sides of the stalk, as they are usually cut in late plowing. On the other sides the roots were not disturbed. The result—small ears, tolerably well filled.

In the remaining two stalks, no roots were cut or disturbed; the ears large and well filled.

The plow is not sufficiently used on our rice plantations, in preparing corn land for planting, and is generally used too late after planting. If the soil has been well prepared and in good tilth, the cultivator or hoe harrow may be used most advantageously after the second plowing. As soon as the plants can be plowed, the first furrow ought to be thrown from it, and the second one to it; and if used again, the sooner the better, so that the corn may be laid by, when it has attained a third of its growth, or very soon thereafter.

I will here remark, that the planter who wishes to increase his corn crop in quantity, must select his seed in the field. Seed from those stalks that have produced from three to six ears, will, in like manner, produce again from three to six years, if the soil is well manured and well cultivated; and seed from those stalks that have produced one ear, will again, in all probability, produce but one ear.

John H. Tucker.

Hamstead, Sept. 9, 1842.

"Terra-Culture."—Here is a new invention that is attracting the attention of the eastern agrsculturists. It is a discovery of a principle of natural law in vegetation, by Mr. Russel Comstock, Mabbettsville, Duchess County, New York. By the terra-culture, all kinds of trees, forest, fruit, ornamental, flourish, peach trees from fifty to a hundred years old, partially decayed and barren, are restored to a healthy and thrifty condition, as when young, in a single season, so as to produce the most abundant and finest fruit. The same results are produced upon all fruit trees, and, what seems scarcely less remarkable, it appears that the precise age of trees are ascertained and determined by Mr. Comstock's theory.

The terra-culture has been applied to all kinds of garden vegetables, plants, fruits and shrubbery, also to all kinds of crops with wonderful success. We cannot go into details of what experiments have proved. Crops of grain and vegetables are, at a great saving of labor, more than doubled by terra-culture. One experiment shows the production of 135 bushels of shelled corn to the acre, and another production of 1000 bushels of Mercer potatoes to the acre. It is also shown that the great crops which have commanded premiums at the agricultural fairs have been produced accidentally by terra-culture.

A Terra-Culture Convention is proposed, to be held at Rochester in March next, of delegates from the Agricultural Societies of New York, to consult on the means of making the discovery public.

What next? Where's guano ?--*Journal and Messenger.*

Cultivation of Corn, Again.

Messrs. Editors:—"Abbeville" is down upon me in your July number with the impetuosity of an avalanche. This is what I anticipated, yea, what I desired. The most important truths are often brought to light by discussion. Nor was it reasonable to suppose, that a theory in reference to the cultivation of the corn crop, which came in conflict with the practices and opinions of the whole country, could pass the ordeal of the public criticism unscathed.

With unabated confidence, however, in the ultimate triumph of the policy I advocate, I feel it to be my duty to reply to Abbeville, though I have serious fears lest the ambeguity with which he has argued his points may cause me to misrepresent him. He says he dictated his article after a refreshing sleep in his old arm chair. But in this I apprehend he is mistaken; my own impression is, that he wrote before he became fully awakened, that, at the time, he was in the somnambulous state. It could not have been the clairvoyant, for that would have put him in mutual communion with Broomsedge, and saved him from the ludicrous farce of beating the air in his defence, when he and I were quietly drawing in the same traces.

As a general rule, I take it to be a legitimate inference that when a writer is found discussing almost every subject in the range of thought, except the one under consideration, that he must have embarked with but a small amount of capital, or that the subject had been exhausted by previous discussion. It cannot be the former, for the writer is known to be a n

able advocate. It cannot be the latter, for this was his first article on the subject. And my friend's embarrassment can only be accounted for on the ground that he has attacked a rampart two powerful for his strength—that he has assailed a citadel that defies his artilery.

He styles himself a coon, near the close of his article. But this is a misnomer. In early life, the senior editor and myself, were amateurs of the chase, which gave us a knowledge of the disposition and habitudes of animals, that we never can forget. And I know I may safely appeal to him for the truth of the position I here assume, that no coon ever crossed his own trail, or tacked back on his own track, as often as the writer has done in his article signed Abbeville. I had not pursued him five minutes untill I was ready to disavow his coonship, and had discovered that it was one of raynard's labyrinths of inextricable windings, that lay before me. To have pursued him step by step, would have been a hopeless undertaking, and it readily occurred to me that the only chance of relieving myself from the embarrassments of my situation was, to adopt the stratagem often resorted to with trinmphant success by artful sportsmen, of withdrawing from the labyrinth, and describing a series of concentric circles of increasing radius, for the purpose of striking him in a new position. A device that bears some distant relation, at least, to the one occasionally resorted to in military operations, of seizing a battery and turning the enemies' guns upon himself. By this stratagem I have succeeded, I trust, in tailing the old fox, and will now proceed to execute a programme of the labyrinth and circles for the edification of your readers.

LABYRINTH.

"We were among those who have felt that skin culture has done its share of mischief."

"We are not sure but root cutting to a certain degree is of vast importance in all improved cultivated plants."

"We must defend Broomsedge, and the world, and ourself, against the corn plant being an interesting specimen of animated nature."

"We should require strong arguments to drive us from the position of the grey headed farmers who hold that breaking the roots gives renewed vigor, and power of development, to the corn plant."

"There is another revelation in science which we cannot pass without notice. That the clay stratum has been hardning from the beginning of the world."

"The general tendency of the hardest mineral and metalic substances is to become broken down, every frost and thaw, *the wearing action of rain drops* are continually breaking up the earth's crust, and the general tendency is disintegration."

"We think it would be rashness and unphilosophical for a man to disregard the experience of ages."

CIRCLES.

"After the second plowing we come into rank with our friend, and shall practice surface culture."

"We have no doubt mischief has been done by plowing corn that had *stood too long* and the ground too hard and dry." (does not explain why—surely loosening the soil did not do the mischief).

"It may be true, that the modes of existence of plants may in some degree be analagous to animals. Remotely, all life, animal or vegetable, is in relationship.—Animal life may be a unit. All life may be a unit. Air, we think as necessary to a plant as to a man."

"We feel satisfied that after two thorough plowings, the harrow, cultivator, or sweep, are all that is needed to finish the culture. This does appear to us in harmony with the nature of the corn plant *rationally and physiologically*.

"It is no doubt true *that once softened rocks* have at great presure at considerable depth in the crust become hardened."

"We prepared our land as deep as we could command power to draw the subsoil. *The heavy rains* of early spring had packed it as hard as a turpike road."

"We agree that time honored customs are not always right."

Beyond the external circle, we encountered but little difficulty in the pursuit, and have noted the following miscellaneous particulars.

"We admit that every living root contributes its share of support to the plant. At the same time we doubt the living condition of a tithe of those seen traversing the soil."

Your readers would have no doubt preferred some proof of the fact, to the mere *doubts* of the writer. Again:

"When the roots become too numerous, the plant is always invigorated by breaking the roots, and opening the earth around it, *and it may be* that this breaking the roots is one of the means of improvement in cultivated plants."

This does not quadrate with the preceding, for if not more than a tithe of the roots seen traversing the soil are in a living condition, it is clear that nature has invested the plant with a power of self regulation, a power of ridding itself of redundant roots as soon as they cease to be desirable, which would seem to supercede the necessity of the officious, and kndly aid of the root-cutters. Besides, the plow has no more respect for the living, than the dead roots. The theory and practices of my friend, therefore, taken together amount to this, that the corn plant by a law of nature is deprived of nine-tenths of its roots, whilst as a means of imparting to it renewed vigor and power of development, he destroys the remaining tithe with the plow. Not leaving, to use a homely illustration, a single button on Gabe's coat.

Again:

"Fresh plowing of corn after a rain, is to the corn plant, what a glass of good old wine is to a man."

Has my friend ever witnessed the exhilliarating influence of fresh sweeping after a good rain? When he has done this, and noted the relative effects of the two plans, as carefully as I have done, I shall be glad to hear from him.

Again:

"We cannot for the life of us separate the sweep, from plows in general. We understand a sweep to be a broad plow, which may be run as deep as a common shovel. In the cultivation of corn three inches is pretty deep plowing, and we are of the opinion that the point of the sweep often penetrates to that depth."

When we reached this passage, we gave involuntary utterance to the trite saying—here lies the D--l. And the idea at once flashed upon our mind, that it would be well for our friend to reverse the order of his operations, viz: to break his land, and perform his two first plowings with his sweep, and sweep with his subsoilers. Verily sweeping corn with a broad plow at a depth of three inches in mid-summer, must, in sailor's phrase, deal destruction fore and aft, on corn and team. The operation brings to mind the remarks of the young woman, who expressed her astonishment, that the young ladies combed their heads every day, for she only combed hers once a week, and that pretty near took her life.

I was gratified, I own, to find my friend falling in line with me even after the second plowing. But if he holds on to this terrible subsoil sweep, I shall insist on parting company with him at once.—But I here begin to recognize a hope of being able to compromise our difficulties. I once knew an Irishman, who, on being asked why he crooked the worm of his tense so much, promptly answered, "By Juckers, if a baste jumps over it all day, hell find himself outside still." And such

would be the relation of my friend and self to the subject before us, were we to discuss it till doomsday, without a preliminary understanding of the grounds we respectively occupy. The sweep I use and recommend, is a piece of iron of a semilunar form, but very slightly curved, some twenty or thirty inches wide, without any toe. Its depth not to exceed an inch if possible. Its use, not to kill grass and weeds, but to prevent them from coming.

Again:

"We say, in the close, go to the crib of him who plows deep and close, and see it burthened with big ears; then to the skimmer and tell us the difference—bring up the balance sheet and convince our judgment."

Be patient my friend, give us time, and we will respond to your call. We know of no cribs except those of the root breakers, and although they often contain big ears, we think if the roots had been respected they would have been a size bigger. We reject the evidence to be found in those skinner cribs, where the sweep penetrates to the full depth of the soil.

I offered all the proof I had as to the effects of bona fide skimming in my first article. The facts were encouraging, and attested by witnesses of undoubted veracity. I have other experiments on the way to test the principle still farther, and shall in due time give the results to the public. I submitted my views simply, and the reasons on which they were based. I used no dogmatism, for my language was that "after all cautiously conduted experiments were the only reliable guides in such cases."

I thank my friend for having enlightened me on the subject of tubers, which I had treated as the roots of plants, and avail myself of the occasion to reciprocate the favor, by assuring him that though he hails from the eighteenth century, ("one of the eighteenth century,") and although his root-breaking zeal would seem very properly to identify him with the preceding generation, I still incline to think him an interesting specimen of animated nature in the nineteenth century, which commenced on the first day of January, in the year of our Lord, eighteen hundred. And in the same spirit I beg the attention of my friend to his assertion that there are more *false facts* than theories. We are at a loss to comprehend the nature of a false fact. We had supposed all facts true, whether good or bad, great or small; their being or existence, we think, constitutes them true facts.

In my next communication I will venture to present the details of a plan for general surface cultivation, based on a theory of rotation, which I trust will prove more palatable to my friend Abbeville, and one that will be relied upon to remove the very plausible objection urged, both by Broomsedge and himself, as likely to result from the beating rains of early spring.

PRY.

Anderson C. H., 1853.

The Farmer and Planter.

PENDLETON, S. C.

Vol. IV., No. 9. : : : September, 1853.

Farmer and Planter---The Difference.

Our brother of the Kentucky Cultivator desires to know the difference, down South, between a farmer and planter. We are informed by the Farmer and Planter's Encyclopedia that a farmer is a person whose business or employment is the cultivation of land, the breeding, rearing and feeding of different sorts of live stock, and the management of various products which are afforded by them. Hence, those engaged in this way may be further distinguished into arable, grazing, dairy, hay and other kinds of farmers, according to the modes in which their farms are cultivated or employed. When the principal part of the land is under the plow, they are termed *arable* farms, but where the fattening of cattle or other live stock is more immediately the object, they are distinguished by the title of *grazing* farms; where the chief intention is the obtaining different animal products, such as milk, butter and cheese, they are denominated *dairy* farms; and where the two systems of arable and grass management can be combined, they are called convertible farms. Besides these, in districts where hay is the principal produce, there are *hay* or *grass* farms; and there are also what are denominated *breeding* or *cattle* farms.

In the above description of a farmer and his business is included almost the entire class of cultivators of the soil in your section of country, Mr. Editor. Not so with us, however, in the South—we mean below the upper limit of the cotton belt—we pursue a mixed husbandry; we are, too, many of us, especially above the true cotton, cane and rice region, jack at all trades and not very good at any; we plant a little and farm a little, and do but little at either. But in the lordly *planter*, with his broad fields of hundreds and thousands of acres of cotton, cane and rice, we recognize altogether a different class of cultivators, whose lands under cultivation are termed plantations. In England, the term "plantation" is differently applied; it embraces lands planted with trees for the purpose of producing timber—a coppiced wood; and it is also applied to a collection of trees or shrubs, set out on ground for their beauty or usefulness.

Enquiries and Answers.

MESSRS. EDITORS: An answer to as many of the following questions as, in your convenience you are disposed to give, will, besides conferring a favor upon the subscriber individually, I am assured, be satisfactory to a great number of your readers. I trust the number will not prevent your giving attention to any. There are few to whom instruction on either point would not be beneficial; so with this I proceed to name them.

1st. As to composting with muck. I am deficient in woods—consequently in leaves for composting—but can command any quantity of rich alluvial from the river banks, some third of a mile from the buildings. Now, would it pay to haul first to the lot, (up an ascent,) then to the field? or if composted on the spot, what method of rendering it valuable would you advise? *(a)*

2d. In using the subsoil plow for the coming crop, would it be advisable to do so while breaking the stubble this fall, or in early spring, before corn planting? And would you recommend a gradual deepening of the soil from year to year, or an extreme depth at once? *(b)*

3d. I have upon the creek, on a low spot, about three acres I wish to convert into a meadow for grass growing. What preparation is best, and what description of grass best suited to the location? *(c)*

4th. In bottoms thrown by this year and densely covered with a rank growth of weeds, would you plow them under this fall, with the certainty of high rivers during the winter, or leave it untouched till spring? *(d)*

LITTLE RIVER.

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REMARKS.—*(a)* If the field on which you desire to spread your compost is most convenient to the location of your alluvial deposit, then we advise composting on the spot, as it will constitute the greater bulk and weight of your heap. We cannot satisfactorily answer the latter part of your query without knowing what other materials you desire to incorporate; indeed, without such knowledge, derived from a correct analysis of the materials there *can be* no correct, definite rule laid down for composting, though we frequently see it attempted.—Much must depend on your own good judgment in forming your compost heap, with your

materials before you, and a knowledge of the nature of the soil to which it is to be applied. We presume, as you speak of hauling to "lots," that your other constituents of the compost are to come from the stables, scrapings of the lots, &c. The proportion of these to the alluvion must depend upon the character (judging from appearances in the absence of analysis) of the latter, whether very rich or otherwise, and the state of the former as to bulk, whether more or less decomposed. Either lime or ashes, if only in small proportionate quantities, you will find a valuable addition to your compost, taking care in forming your heap that a layer of the alluvial intervenes between either and animal manures; and if you can afford so to apply it, an addition of *salt*, if not exceeding 1 gallon to every 100 cubic feet (10 feet square and 1 foot deep) of alluvial will add much to the value of the compost.

We have no definite rule for composting, and can only recommend our friends to avail themselves of all their resources. It is not so very important how you mix, so you get as much as possible on your land. You may, not knowing the constituents of your soil, apply something that is really not needed; this is, however, only labor lost at the time; no harm need be apprehended. Not much danger of "too much of a good thing" in the way of manure.

If your deposit is composed of much inert or undecomposed vegetable matter, by hauling and spreading on your land, and so leaving it to the action of a winter's frost, &c., to be turned in in the spring, you may be well paid for your trouble, and more especially if you give the land a dressing of some fifty bushels of lime or ashes to the acre before plowing. This would be attended with less trouble, and would probably be more efficacious than if composted with the lime or ashes before carting out.

(b) On these subjects see some remarks in this number in answer to other letters of enquiry.

(c) The first business on this land that claims your attention is thorough draining. If the depth of your creek bed will admit of sufficient fall, sink all surface water at least *three feet*. This may be done by covered drains, so as not to interfere with future operations. Then as soon as the land has become sufficiently dry to bear it, turn with a good two-horse plow, followed in each furrow by the subsoiler. If the plowing is done in the fall, and especially if the subsoil is stiff, and a portion of which has been laid on the top, it should so lie till the spring of the year, then heavily rolled and harrowed with an iron toothed harrow. Your land is now ready to receive, broadcast, whatever manure you may have in store for it. Improved super-phosphate of lime, Guano, or lime and ashes should be preferred for grass land to stable manure, on account of the growth of weeds, &c., which are sure to follow its application. If your land is of fair quality, from 200 to 300 lbs. of either of the two former, or half of each, or 50 bushels of either of the two latter, or half of each to the acre may be applied broadcast, and the land again well harrowed, when you have it ready for your seed.

Seed, and time of sowing.—On your success in draining will depend "what description of grass shall be cultivated," for none but the herds and the native varieties of our aquatic grasses succeeds on *wet* land. But if sufficiently dry, you may sow of such as we are best acquainted with. Herds, say half a bushel, orchard grass, one bushel, blue grass, one gallon, red clover, six quarts, and if you intend grazing much, of white clover one quart per acre. After sowing, brush lightly, and if quite dry, roll. Sow about the time you would sow early oats.

(d) We should plow them under in the fall, and then run a heavy roller over the land. See our remarks on fall plowing, answering enquiries, &c., in another column.

We take the liberty of making the extract below from a letter received from a highly respected subscriber of Lexington District, and shall be pleased to receive the proposed communication on the subject of Circular Saws, &c. Mechanics comes within our "chartered rights," and we would like much to receive more communications on that subject than we have heretofore done, for every farmer and planter is more or less interested in it; besides, there are many mechanics who are subscribers to our paper. We are now getting lumber for a saw mill, and hence any new light that may enable us to improve on the old "'tis as 'twas" makeshift of our country, will be most acceptable.

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"Some months since, I promised you an artice for publication; and I would now redeem my pledge, but have some doubt whether my subject would be altogether acceptible to you. I would like to say something of the superiority of circular over verticle saws for the production of lumber, if you think the subject suited to your journal. I have considerable experience in the matter, and might furnish your readers with such information as would enable many of them to manufacture building material with greater facility and at a cheaper rate than they have been accustomed to procuring it. If you wish such an article, give me a hint in your next, and I will furnish it, leaving you to judge whether to give it publication or not, after you have read it.

Although the rains held off 'till the 5th July, and the prospect looked the most gloomy I ever saw for making a crop, I have some very fine upland corn, owing to deep plowing before the drought set in, and placing the manure so low that it remained undisturbed by plow or hoe, during cultivation, I received much benefit also, from hill-side ditches and horizontal rows, as the first light showers that fell were absorbed by the earth, instead of running down the hills and away into the valleys below, as of previous years. So much for pursuing a system recommended by your journal, and following the dictates of common reason. I feel grateful to you for the effort you are making to enlighten the farmer and make his calling pleasant and profitable; for, to me, the result of your labor has proved beneficial—far beyond the price paid for it.

Yours, &c. P. Q.

For the Farmer and Planter.

Agricultural History of Cotton, Sugar and Indigo.

Cotton *(Gossypium Herbaceum)* is a native of the East Indies, and is extensively cultivated, so that in 1818 67,456,411 lbs. were imported into Great Britain. But the quality is very inferior to that of other countries. The best of it in the London market is worth 3d. per lb. less than the best West India cotton. It is half the value of Berbice cotton. That from Pernambuco and the modern Egyptian cotton are recognized to be 60 per cent. better; and this inferiority again is attributed to the ignorance and prejudice of the Hindoo people. It is indeed extraordinary, that admirable as the East Indies are calculated for the growth and exportation of cottou, out of 197,544,880 lbs., the average import into Great Britain of the years 1827 and 1828, the United States furnished 151,834,000 lbs., Brazile 17,754,880 lbs., Egypt 6,957,800, the West Indies (English dependencies) 9,010,560, and the East Indies 11,987,040 lbs.

Sugar Cane, from which sugar is made, is also a native of the East Indies, and is, in fact, more or less an object of agriculture in every considerable country of the vast region comprehended under that name, from the 8th degree of south to the 30th degree of north latitude, and from Persia to China, both inclusive.

Indigo is also a staple article of the East Indies, one of the most valuable of its products, and one of the most profitable of cultivation in all Hindostan is yielded by the *Indigofera Tinctoriæ*, and it is in that country so lucrative because an immense extent of land is required to produce but a moderate bulk of the dye, because labor and land are cheaper there than anywhere else, and because the raising of the plant and its manufacture can be carried on without a horse. S.

Hightower, Forsyth co., Ga.

The eyes of needles are punched by a machine, which, superintended by one boy, can punch twenty thousand in a day.

The Crops.

Complaints are becoming quite general that planters are having too much rain at this season of the year for their cotton crops. The plant is easting its fruit and taking a second growth, and rains retard generally the maturity of the bolls—for as long as there is an excess of moisture in the ground they will not mature—and when obscured from the sun by the foliage of the plant, the bowls frequently rot.

The cotton plant is peculiar in its nature, and for its growth and maturity and its greatest perfection, it requires but little rain or moisture after it begins to fructify. After the first of August cotton will do best almost without any rain. Rains after that date, in such quantities as we have had within the past three weeks, especially upon low and rich soils, must be prejudicial to the crops, and they affect the plant in more ways than one. The cotton bloom exists but one day, in its fecundating mood. The full grown bud of today will, by to-morrow morning, burst tnto the beautifully yellow blooming flower. This will last till the afternoon, when the petals begin to lose their yellow tinge and close up. The next or third day the bloom presents a withered and contracted appearanee, the yellow thing is sueceeded by a pale red or purple, and falls from the stem, leaving the young food fully formed and growing. Now, it is a fact well authenticated by our our own observation and that of others, that if it rains upon the bloom during the time of its full expansion and the process of its fecundation, say from 4 o'clock, a. m., to 4 o'clock, p. m., so that the pollen is saturated with the rain, it generates an acid, which destroys the fructifying powers of the bloom; the petals close, and when the flower falls from the stem, and the squares (calyxes) or what should remain as the young bolls fall also. Hence the term that cotton "casts its fruit" in wet weather.

It may, therefore, be understood why our planters so readily complain of the deleterious effects of wet weather upon their crops in the fall, especially during the bearing season of July, August and September. Continued rains in these months produces an over-growth of the weed—often a second growth, destructive of the first—delays the maturity of the bolls, causes them in low lands to rot, siekens the plant with blight and rust, and when it falls upon the expanded flower, destroys its fecundity and eauses it to "cast its fruit." These are some of the effects of excessive rains upon cotton fields during the fall or bearing months, which are verified by our own and the observation of many others—can be tested by all; and which are experienced by those who are engaged in the cultivation of this useful and indispensable article. Useful and indispensable alike to the planter, merchant and manufacturer, and which has done more to enrich nations and individuals, extend eommeree and advance civilization, than any other product of the world.—*Savannah Republican, 13th ult.*

From the Pennsylvania Farm Journal.

The Use of Tanners' Bark in Agriculture and Horticulture.

Mr. Editor:—Almost every year petitions are presented to our Legislature, praying that tanners may be prohibited from throwing their "*spent bark*" into the various creeks throughout the State. It is a well-known fact, that the disposition of this material has always been a souree of trouble and eonsiderable expense, especially where tanning is carried on upon a large seale; and whenever a stream of water affords the opportunity, load after load of it is earted to the banks, to be earried away by the first freshet. Some tanners permit it to aecumulate from year to year, until absolute necessity compels them to haul it upon the roads and lanes in the vicinity; or dispose of it by the slow process of burning. Without pretending to much seientific knowledge, it appears to me that to cast spent tan bark into our creeks and rivers, is to be condemned not only on aecount of the filling up of mill-dams, &c., but as a downright waste of what, with a little care and patience, may be made a valuable fertilizer.

Being slow of decomposition, its effects, when applied to the soil in the form in which it comes from the tannery, if not positively prejudicial, are so long in manifesting themselves, that few persons are willing to risk the one, or wait for the effects of the other. Having once had life—it being the product of vegetable matter—it is reasonable to suppose that if properly decomposed, it will furnish food for vegetation. Such, at least, has been the result of my experience with it. The immense quantities of tanners' bark annually wasted for want of a proper knowledge of its true value, induces me to present to your readers my plan of rendering it available as a fertilizer.

Having some years since received permission to take as much as I desired of spent bark from a neighboring tannery, I et my men to work with carts, and haule l several hundred loads, which I composted in the following manner. First a bed of tan about two feet thick, over which I spread a heavy coating of lime, eovering the lime with a layer of very wet barnyard manure, to a depth of five or six inches; then another layer of tan, followed by the lime and manure, and eapping the whole heap with another layer of tan. This was in February—the season being a mild one. In the month of October following I eut the whole heap down with spades, applying another dressing of lime as the work progressed. I found that the tan was deeomposing as rapidly as I could have expected, and that the compost looked well. It was then permitted to remain untouched until a year from the following spring, when part of it was applied to a field which I intended for corn, at the rate of about twenty large cart loads to the acre. The result was as fine a crop as I ever had, although no other manure had been applied, either in connection with the tan, or for two years previously.

The balance was drawn on a field which I put in wheat, and here the result was as gratifying as in the case of the eorn. The crop was heavy, yielding more than thirty bushels to the aere of as well filled wheat as any farmer could desire.

Within a few years its value as a top-dressing for strawberries and raspberries has begun to be properly appreeiated. Nothing better ean be applied to strawberry beds in the fall than a good top dressing of well rotted manure, followed by a coating of tan fresh from the tan yard, (if need be,) sufficiently thick to cover the plants, all but the top or crown. Raspberries glory in tan—it appears to be the very food they need; and if supplied to them in sufficient quantities, the result will be, flourishing and fruitful plants. Apply it in the fall, and in the spring "spare not your hand," as it is plentiful and may be had for the hauling. E. S. B.

Cumberland county, Pa., April, 1852.

[Last season we experimented, to a small extent, with tan in the cultivation of celery. In digginng our trenches we ordered one to be dug three feet deep, causing the subsoil to be thrown to one side and its place (to a depth of two feet) supplied by tan, partially decomposed. Over this was spread the surface soil to a depth of six inches. The celery was planted in the same manner as in the other trenches. During the early part of the season there was no perceptible difference between the growth of the celery in the trench to which the tan was applied, and those to which it was not. But as the season advanced, and the almost unprecedented drougth east a withering influence upon all vegetation, that in the former grew vigorously—retained a fine, healthy, deep green color, and produeed an excellsnt crop; while in the latter, although water was applied as freely as to the other, and the treatment similar in every other respect, it was almost an entire failure. Whether the tan possesses fertilizing qualities adapted to the growth of celery, or whether its merits in this case consisted merely in supplying moisture, so essential to its growth, we are not prepared to say. We reeord the experiment for the benefit of those who may feel disposed to pursue the investigation further.—Ed. Pa. F. J.]